UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

NOV 0 8 2012

REPLY TO THE ATTENTION OF:

E-19J

Constantine J. Dillon
Superintendent
Indiana Dunes National Lakeshore
1100 North Mineral Springs Road
Porter, Indiana 46304

Re: Draft Environmental Impact Statement for the Shoreline Restoration and Management Plan for Indiana Dunes National Lakeshore, Porter, Indiana CEQ # 20120301

Dear Mr. Dillon:

The United States Environmental Protection Agency has reviewed the above-referenced document provided by the National Park Service (NPS). Our comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act.

Indiana Dunes National Lakeshore (INDU) is located in northern Indiana, along the southern tip of Lake Michigan. It is one of only four national lakeshores under the management of the NPS. It consists of highly diverse landscapes, including marshes, prairies, oak savannahs, and dunes, as well as being home to rare, threatened, or endangered species of flora and fauna. However, INDU is also subject to impacts from man-made activities near its boundaries, including from numerous harbors and hardening, greatly impacting the integrity of the shoreline.

Because of man-made changes to the shoreline and Lake Michigan's natural east-to-west littoral drift, the shoreline along INDU has changed dramatically. Areas east of Michigan City and the Port of Indiana have experienced accretion of sediment, whereas areas west have become sediment starved. Continued beach erosion has been partially mitigated through ongoing beach nourishment and dredging, but no sustainable long-term solution currently exists. Therefore, NPS has determined that a shoreline restoration management plan is necessary to address the issue, and the above-referenced environmental impact statement (EIS) was prepared to analyze alternatives and impacts as a result of the proposed project.

This project is funded in part by the Great Lakes Restoration Initiative (GLRI). EPA finds the EIS consistent with the inter-agency agreement signed by EPA and NPS. The project's purpose and need meets the goals and objectives of GLRI.

The study area is divided into four reaches, from east to west along the shoreline of INDU. Including the no-action alternative, seven alternatives were considered for the combined span of Reaches 1 and 2 (from Crescent Dune to Willow Lane), and four alternatives were considered for the combined span of Reaches 3 and 4 (from Willow Lane to the Gary-U.S. Steel East Breakwater). Alternatives range from annual nourishment activities to permanent bypass systems. The preferred alternatives are:

- *Reaches 1 and 2 – Alternative E (Submerged Cobble Bern and Beach Nourishment, Annual Frequency):* A 6,500 linear foot submerged cobble berm would be constructed parallel to the shore near the 10-foot water depth contour, cresting 4-feet below the water line. The berm would be made of 2- to 9-inch aggregate from an area updrift in Lake Michigan. This alternative also includes beach nourishment of up to 102,400 yards^3 of sediment annually, dredged from a source located east of the Michigan City Harbor structure.
- *Reaches 3 and 4 - Alternative C-5 (Beach Nourishment via Dredged Sources, Five-Year Frequency):* Approximately 370,000 yards^3 of sediment would be placed every five years along Reach 3 to fulfill the sediment deficit. The placement would take approximately six months. Sediment would be dredged from an updrift location in Lake Michigan, such as near the Northern Indiana Public Service Company/Bailly intake.

Based on our review of this document, EPA has rated the Draft EIS as "**Environmental Concerns – Insufficient Information**" (EC-2). This rating is based on premature removal of alternatives, potential impacts to shoreline equilibrium, and the need for additional information. In particular, EPA requires additional information about Alternative D for Reaches 3 and 4 before fully understanding the range of alternatives and potential impacts. EPA's detailed comments are enclosed. Please see the enclosed summary of the rating system used in the evaluation of the Draft EIS.

Thank you in advance for your consideration of our comments. If you have any questions, please contact Elizabeth Poole of my staff at (312) 353-2087 or poole.elizabeth@epa.gov.

Sincerely,

Kenneth A. Westlake
Chief, NEPA Implementation Section
Office of Enforcement and Compliance Assurance

Enclosures (2): Summary of Ratings Definitions
EPA's Detailed Comments

cc: Nick Chevance, National Park Service
Liz McCloskey, U.S. Fish and Wildlife Service
Andrew Blackburn, U.S. Army Corps of Engineers, Chicago District
Steve Davis, Indiana Department of Natural Resources
Mike Molnar, Indiana Department of Natural Resources
Larissa Muellner, Indiana Department of Natural Resources
James Glass, Indiana Department of Natural Resources
Leanne Whitesell, Indiana Department of Environmental Management
Marty Maupin, Indiana Department of Environmental Management
Nicole Barker, Save the Dunes

EPA's Detailed Comments on the Draft Environmental Impact Statement for the Shoreline Restoration and Management Plan, Indiana Dunes National Lakeshore, Porter, Indiana November 2012

Alternatives

Preferred Alternative for Reaches 1 and 2

The preferred alternative for Reaches 1 and 2 includes sand placement of 102,400 yards^3 every five years, in addition to a submerged cobble berm. The amount of sand required to fulfill the sediment deficit is 136,000 yards^3. The proposed cobble berm should account for the difference required to fulfill the sediment budget. However, the cobble berm is only expected to last for five years and will not be rebuilt. It is unclear how the sediment budget will be fulfilled annually once the cobble berm has dissipated. The Draft EIS does not indicate whether the amount of annual sand nourishment will need to increase after the berm disperses, or if a state of equilibrium will be reached during the five-year life of the berm.

> **Recommendation:** EPA recommends that the Final EIS detail the expectations for the sediment deficit after the dispersal of the cobble berm. The Final EIS should also verify that the cobble berm will not be rebuilt after its life expectancy.

The submerged cobble berm extends along Reach 1 (from Crescent Dune to Lake Front Drive) ending near the east side of the Beverly Shores community. The Draft EIS notes that the cobble berm will help keep sand in place at the base of Mt. Baldy, which is currently in a depletion mode. If this alternative is implemented, there will be a gap between the west terminus of the cobble berm and the next reach of protected shore line of approximately 3,700 linear feet. EPA expects that this 3,700' of unprotected shoreline, which includes the Beverly Shores community, could suffer from a sand starvation situation due to implementation of this alternative.

> **Recommendation:** The Final EIS should disclose whether this sand-starvation scenario has been considered, and whether specific mitigation measures have been identified to reduce impacts to the Beverly Shores community.

EPA has additional concerns about the dispersal of the materials used in the proposed cobble berm. The bottom of Lake Michigan is made primarily of clay, and the addition of rock to construct the cobble berm could cause scouring along the Lake bottom as the berm disperses. The Draft EIS does not discuss whether this has been considered.

> **Recommendation:** The Final EIS should indicate whether NPS has studied this potential issue, if it is a concern, and what measures can be taken to further reduce potential impacts.

In addition to the potential for scouring along the Lake bottom, EPA is also concerned about dispersal of the cobble berm material and potential settling locations. We understand that there are clay valleys in the Lake near Mt. Baldy which are up to 6' deep. Yellow perch are known to

spawn in these valleys. When the cobble berm disperses, it is unclear to where the material will disperse and whether there is potential for the material to settle in these valleys, thereby potentially affecting fish spawning habitat.

> **Recommendation:** The Final EIS should include information about the modeled dispersal paths for the cobble berm material, if there is potential for intrusion into these clay valleys, and whether it will impact yellow perch spawning. If there will be an adverse impact to yellow perch spawning, mitigation measures should also be outlined and committed to in the Record of Decision (ROD).

The discussion in the Draft EIS of impacts to coastal processes as a result of implementation of the preferred alternative for Reaches 1 and 2 does not include areas outside of INDU boundaries, particularly in the updrift areas east of the Michigan City Harbor, which are proposed for dredging. The areas directly east of the Michigan City harbor are currently in a state of equilibrium which has resulted in an accretion area nearly a mile updrift of the harbor. This accretion has resulted in beach equilibrium conditions, which currently protect residences directly on the lakefront. If the preferred alternative is pursued, EPA is concerned that deeper offshore conditions (as a result of the proposed dredging for sand nourishment in Reach 1) could cause a change in the dynamics of the shoreline east of the Michigan City Harbor, i.e., a starvation situation along this stretch of shoreline.

> **Recommendation:** The Final EIS should include a discussion of potential consequences to updrift shorelines as a result of the increase in dredging and the change adjacent shoreline interactions (including installation of the cobble berm).

Alternative D for Reaches 3 and 4

EPA requests additional details regarding Alternative D (Beach Nourishment via Permanent Bypass System) for Reaches 3 and 4. The scope of impacts is not clear, and additional information is required in order to fully understand impacts as a result of Alternative D and why it was eliminated from consideration.

- *Locations of lift stations:* Because the Draft EIS does not contain any maps or drawings of the "visible lift stations," EPA cannot determine where the stations are located and by how much they are visible to the public. Because of this, mitigation measures cannot be determined or recommended by reviewers. The Final EIS should include both maps and schematics of the lift stations.
- *Visitor Experience*: The Draft EIS states that the visible lift stations will impose a visual intrusion to park visitors and a safety hazard to swimmers. First, EPA recommends that "visual intrusion" be defined. As discussed above, without maps or drawings, it is difficult to determine how the visitor experience will be impacted by lift station installation. The Final EIS should include information on the extent of the visible intrusion of the lift stations. Second, the Draft EIS notes that the lift stations could pose a

hazard for non-confident swimmers. However, no clear link exists between the lift stations and the posed hazard. The Final EIS should include information that better details this connection.

- *Park Operations*: The Draft EIS states that impacts to park operations as a result of Alternative D would result in minor to moderate, short- to long-term impacts. EPA recommends additional information on the required staff resources, expected maintenance, timing, and costs in relation to the sand bypass system, particularly how these impacts differ from the other alternatives be included in the Final EIS.

Recommendations: Because the true range of impacts as a result of Alternative D for Reaches 3 and 4 is unknown, EPA views this alternative as still ripe for analysis and should be retained for re-consideration. EPA cannot make the connection to why it was removed based on the information provided in the Draft EIS. Based on EPA's analysis, we strongly encourage re-consideration of Alternative D for Reaches 3 and 4. EPA also recommends additional information, as discussed above, be included in the Final EIS.

Mitigation Measures Common to All Alternatives

Aquatic Resources

Mitigation measures to reduce impacts to water resources including wetlands, listed on page 48, do not include language to avoid equipment staging in wetlands during beach nourishment activities.

Recommendations: EPA recommends the Final EIS include avoiding wetlands during construction staging as a mitigation measure. This, along with all listed mitigation measures, should be committed to in the ROD. If construction staging in the wetlands cannot be avoided entirely, the Final EIS should explain why, and commit to specific best management practice to minimize impacts to wetlands.

Threatened and Endangered Species

Mitigation measures reducing impacts to threatened and endangered species, as listed on page 50, include surveys that will be conducted for "rare, threatened, and endangered species as warranted." This section also includes language about avoiding critical areas and times, such as nesting, as much as possible.

Recommendations: EPA recommends the Final EIS discuss to which species this applies and what the definition of "warranted" is. EPA recommends NPS firmly commit to avoiding nesting season for the rare, threatened, or endangered species that could be affected by the proposed project.

Cumulative Impacts

Despite the U.S. Army Corps of Engineers (USACE) agreement to be a cooperating agency for the proposed project, USACE-led shoreline dredging projects in lower Lake Michigan were not mentioned in the Draft EIS. Further, the Draft EIS does not mention other similar, non-NPS led projects occurring in the project vicinity.

Recommendations: The Final EIS should include a discussion of all ongoing and proposed projects in the vicinity that involve dredging, or shoreline restoration, management or alteration. Projects of this nature could be under the oversight of state agencies or USACE, and could include those funded by the Great Lakes Restoration Initiative. The Final EIS cumulative impacts analysis should indicate whether these projects will either impact or be impacted by each of the proposed alternatives.

Public Outreach

EPA understands there are concerns among adjacent residents regarding the use of rocks in the cobble berm, particularly whether the rocks will wash up on shore, among other issues. EPA commends efforts of NPS thus far to inform the public of the proposed project. This effort should continue.

Recommendations: However, based on concerns of the adjacent community, EPA recommends continued educational outreach efforts be pursued throughout construction. This could include signs stating the timing of construction, potential impacts, ways to avoid hazards, and explanation of project benefits. Because noise is anticipated to be a significant impact lasting some ten months every five years under the preferred alternative for Reaches 1 and 2, EPA recommends noise notification to visitors and neighboring residents be a particular focus.

Additional Information

Finally, EPA identifies the following information as missing from the Draft EIS. We recommend the Final EIS include these documents, which would provide reviewers with more detailed and complete information of the affected environment and the range of alternatives:

- EPA notes a brief discussion of impacts to submerged historical resources and mitigation measures to protect resources on page 27. We recommend coordination documentation with the Indiana Historic Preservation Office be included in the Final EIS.
- Additional information should be provided about the integrity of materials used in both the beach nourishment and creation of the cobble berm concerning potential to bring in invasive species. The Final EIS should detail how the material for the berm and beach nourishment will be tested for contaminants and invasive aquatic hitchhikers.

- Page 59 mentions, "potential effectiveness of a submerged cobble berm has been analyzed in previous physical and numerical modeling studies (Baird 2000)." This reference is not found in the bibliography. EPA recommends an actual copy of the study be included as an appendix to the Final EIS.
- The Final EIS should better detail rock migration timelines and dispersal paths. EPA recommends cross-sections of all the proposed alternatives be included in the Final EIS, particularly for the proposed alternatives.
- EPA recommends a map of the wetland pannes located within the vicinity of the project, particularly those located near the preferred alternatives.
- The Final EIS should include a discussion of all required permits. We note that the Draft EIS indicates coordination for a consistency determination under the Coastal Zone Management Act, but other required permits were not identified. This includes, but is not limited to, Clean Water Action Section 401 Water Quality Certification and stormwater permits.

SUMMARY OF RATING DEFINITIONS AND FOLLOW UP ACTION

Environmental Impact of the Action

LO-Lack of Objections
The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns
The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impacts. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections
The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory
The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS sate, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1-Adequate
The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alterative and those of the alternatives reasonably available to the project or action. No further analysis or data collecting is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information
The draft EIS does not contain sufficient information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3-Inadequate
EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640 Policy and Procedures for the Review of the Federal Actions Impacting the Environment